

Notice of Allowability

Application No.

10/032,036

Examiner

James K. Trujillo

Applicant(s)

LIN ET AL

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communications filed 22 April 2005.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 31 December 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. The office acknowledges the receipt of the following and placed of record in the file:

Response to Election / Restriction dated 4/22/05.

2. Claims 1-8 are presented for examination. Claims 9-26 are non-elected claims.

Allowable Subject Matter

3. Claims 1-8 are allowed.
4. The application having been allowed, formal drawings are required in response to this Office Action.

REASONS FOR ALLOWANCE

5. The following is an examiner's statement of reasons for allowance:

Sellers, U.S. Patent 6,054,979 teaches a detection apparatus (processing electronics 220, figure 11 and col. 4, lines 23-35) for use in a touch pad, for detecting the coordinates indicated by a user on the touch pad and the behavior of the user on the touch pad, the touch pad including an X-layer and a Y-layer (sensing voltage using a top layer and bottom layer, col. 1, lines 21-35 and col. 1, lines 56-64, figures, 5, 6 and 9). The detection apparatus of Sellers has a sleep mode (wake-up mechanism is required thus the apparatus must have a sleep mode, col. 2, lines 5-7 and col. 4, lines 30-42) and an operative mode (inherent as would be the case when the apparatus is not in a sleep mode), wherein when the user touches the touch pad, the X- and Y-layers are electrically coupled at a touch point (causing current to flow), wherein detection of electrical current in response to contact by a user is interpreted as being electrically coupled (col. 4, lines 23-35).

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The detection apparatus of Seller further comprises a central processor (controller 228, figure 11, col. 1, lines 33-35 and col. 4, lines 23-35) for outputting at least a coordinate control signal (in Sellers, the processor causes the raster to sense the X-Y conductors of the contact point that are carrying current, col. 4, lines 36-49 and col. 5, lines 1-9), at least a conversion control signal (a signal which causes the controller then calculates the X-Y position of the contact point, col. 5, lines 7-10).

The detection apparatus of Sellers also comprises a coordinate detecting unit (a raster scan circuit 220, figure 11), coupled to a first terminal of the X-layer, a second terminal of the X-layer, a first terminal of the Y-layer, a second terminal of the Y-layer, and the central processor (controller 228, figure 11 and col. 4, lines 23-35), for receiving the coordinate signal so as to determine an X-coordinate voltage and a Y-coordinate voltage, wherein the X- and Y-coordinate voltages correspond to the touch point (calculating X-Y center, figure 10 and col. 5, lines 7-10). Specifically, the coordinate detector of Sellers (raster) performs a sequential scan the of the X-Y matrix and thus must be coupled to at least two terminals of the X-layer and two terminal of the Y-layer because current or voltage (when using resistive technology, col. 1, lines 21-35) is detected (col. 4, lines 23-49) to determine the X-Y coordinates.

Seller teaches an analog-to-digital converting unit (not show but inherently within the controller in order to performs calculation of X-Y position of the contact in which voltages induced by a touch must be converted to a digital signal to determine an X-Y position, col. 5, lines 1-19), coupled to the coordinate detecting unit (raster scan 222, figure 11) and the central processor (it appears that the analog-to-digital converter is inherently part of the central processor of Sellers because the central processor in Sellers calculates the X-Y coordinates from

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the coordinate detecting unit, col. 5, lines 7-10), for receiving the conversion control signal (in Sellers all circuits except the wake-up current sense circuit 224 and activation circuit 226 are without power and thus a conversion control signal must be applied in Sellers in order to determine the X- and Y- coordinates from voltages) so as to convert the X- and Y-coordinate voltages into an X-coordinate and a Y-coordinate, and to output the X- and Y-coordinate (the controller determines and controls when the calculations are to be made, col. 5, lines 1-19).

Sellers further teaches and a wake-up unit (wake-up current sense circuit, figure 11), coupled to the coordinate detecting unit and the central processor, wherein, as the detection apparatus is in the sleep mode (processing electronics other than circuits 224 and 226 are in a sleep mode, col. 4, lines 50-62), when the user touches the touch pad and the X- and Y-layers are in contact with each other, the wake-up unit outputs a wake-up signal of a first level so that the detection apparatus changes from the sleep mode to the operative mode (causes the controller to be activated, col. 4, lines 36-38).

Sellers does not disclose wherein the central processor outputs a wake-up control signal and wherein the central processor sends the wake-up control signal so that the wake-up signal changes to a second level.

Sellers discloses at col. 4, line 50 through col. 5, line 18 that all circuitry except 224 and 226 are not consuming power and that 224 only outputs a wake up signal upon detection of contact at the touch pad. Thus, there would be no motivation to send a wake-up control signal so that the wake-up signal changes to a second level because the wake-up is only sent when contact is detected at the touch pad.

Ichii et al, U.S. Patent 6,529,530 teaches a system that transmits an acknowledgment signal, and a node which is transmitting the wake-up instruction stops transmitting the wake-up instruction when it has received acknowledgment signals from all the other nodes in order to avoid unnecessary transmission of the wake-up instruction.

Ogura et al., U.S. Patent 6,359,616 teaches a system that detects when a user contacts a touch pad and inputs data therefrom.

Gibson et al., U.S. Patent 6,049,885, teaches a system with a wake-up acknowledgment that deasserts a wake-up enable line.

Nakazawa et al, U.S. Patent 5,451,724 teaches a touch pad that detects when a user is in contact and provides power control.

The prior art of record does not teach or suggest individually or in combination detection apparatus for use in touch pad with a central processor outputs a wake-up control signal and wherein the central processor sends the wake-up control signal so that a wake-up signal from a wake-up unit changes to a second level

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To

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ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Pursuant to MPEP 606.01, the title has been changed to read:

-- METHOD AND APPARATUS FOR DETECTION AND POWER CONTROL FOR USE IN
A TOUCH-SENSITIVE PAD --

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Trujillo whose telephone number is (571) 272-3677.

The examiner can normally be reached on M-F (7:30 am - 5:00 pm) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (571) 272-3670. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James Trujillo
May 4, 2005


LYNNE H. BROWNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100